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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/657,863	09/09/2003	Christopher Richard Doerr	Doerr 74 (LCNT/125663)	2072
46363	7590	05/03/2006	EXAMINER	
PATTERSON & SHERIDAN, LLP/ LUCENT TECHNOLOGIES, INC 595 SHREWSBURY AVENUE SHREWSBURY, NJ 07702			DOAN, JENNIFER	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/657,863

**Applicant(s)**DOERR, CHRISTOPHER  
RICHARD**Examiner**

Jennifer Doan

**Art Unit**

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6-17, 19 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-17 and 19 is/are rejected.
- 7) ☒ Claim(s) 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

Applicant's communication filed on February 9, 2006 has been carefully studied by the Examiner. The arguments advanced therein are persuasive. In view of further search, however, a relevant document is found; therefore, a new rejection is set forth below. This action is **not** made final.

### *Specification*

1. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 4, 6, 8, 10 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Hung (U.S. Patent 6,330,255).

With respect to claims 1, 16 and 17, Hung (figures 2 and 3) discloses a method and an apparatus of an optical monitor comprising a tunable filter (1407) for filtering a tapped portion of an optical signal at a predetermined frequency to provide thereby a

Art Unit: 2874

first filtered optical signal; a directing means (1413) for directing the first filtered optical signal back through the tunable filter to provide thereby a second filtered optical signal (column 5, lines 37-50); and a photodetector for measuring the power of the second filtered optical signal (column 7, lines 8-20).

With respect to claim 2, Hung (figure 2) discloses the optical monitor further comprising an optical coupler (1401) for tapping a portion of the optical signal and for directing the second filtered optical signal to the photo detector.

With respect to claim 4, Hung (figure 2) discloses the optical monitor, wherein the optical coupler comprises a multi-section optical coupler (see figure 2).

With respect to claim 6, Hung discloses the optical monitor, wherein the directing means includes a Faraday rotator mirror (column 6, lines 49-50).

With respect to claims 8 and 19, Hung (figure 3) discloses the optical monitor, wherein the directing means is adapted for reducing polarization dependence of a reflected portion of the filtered optical signal (see figure 3).

With respect to claim 10, Hung (figure 3) discloses the optical monitor, wherein the directing means comprises a quarter-wave plate.

With respect to claim 11, Hung (figure 3) discloses the optical monitor, further comprising a control unit (1405) for tuning the tunable filter across a frequency band of the optical signal and monitoring the optical power as a function of a tuning frequency of the tunable filter (column 3, lines 14-23).

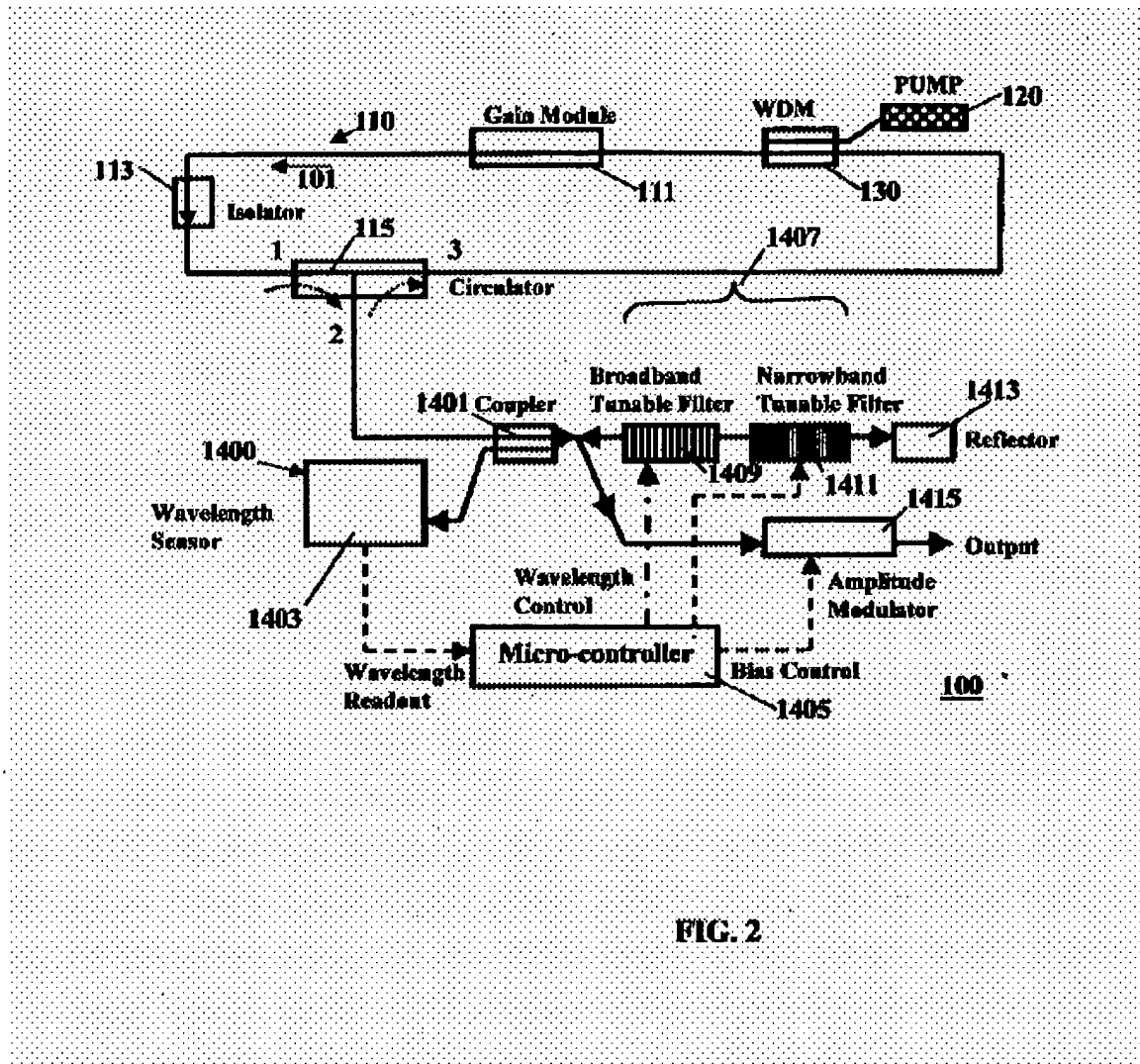


FIG. 2

**Claim Rejections - 35 USC § 103**

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung (as cited above).

With respect to claim 3, Hung substantially discloses all the limitations of the claimed invention except the optical coupler has a splitting ratio in range from about 1/99 to about 5/99.

However, the optical coupler having a splitting ratio in range from about 1/99 to about 5/99 is considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the optical coupler of Hung's device to have a splitting ratio within the range as claimed for the purpose of obtaining a higher efficiency of the optical signal transmission, and it also has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the ranges claimed. *In re Aller*, 105 USPQ 233 (see MPEP § 2144.05).

With respect to claim 15, Hung substantially discloses all the limitations of the claimed invention except the tunable filter comprises an exponential distribution of a free-spectral range from 200-12800 GHz.

However, the tunable filter including an exponential distribution of a free-spectral range from 200-12800 GHz is considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the tunable filter of Hung's device to have a free-spectral within the range as

Art Unit: 2874

claimed for the purpose of obtaining a higher efficiency of the optical signal transmission, and it also has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the ranges claimed. *In re Aller*, 105 USPQ 233 (see MPEP § 2144.05).

6. Claims 7 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung (as cited above) in view of Jeon et al. (U.S. Patent 5,812,567).

With respect to claim 7, Hung substantially discloses all the limitations of the claimed invention except the directing means includes a Sagnac loop.

However, Jeon et al. (figure 3) disclose the directing means includes a Sagnac loop (101). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the optical monitor of Hung's device to have the directing means including a Sagnac loop (accordance with the teaching of Jeon et al.) for the purpose of providing ultra-short pulse that has a very stable and large energy.

With respect to claim 9, Hung substantially discloses all the limitations of the claimed invention except the directing means comprises a Faraday rotator mirror.

However, Jeon et al. disclose the directing means includes a Faraday rotator mirror (see the abstract). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the optical monitor of Hung's device to have the directing means comprising a Faraday rotator mirror (accordance

with the teaching of Jeon et al.) for the purpose of providing ultra-short pulse that has a very stable and large energy.

7. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hung (as cited above) in view of Doerr (U.S. Patent 7,006,730).

With respect to claims 12 and 13, Hung substantially discloses all the limitations of the claimed invention except the tunable filter comprises a plurality of coupled Mach-Zehnder Interferometer filters, each of the MZI filters includes at least one phase shifter.

However, Doerr (figure 1) teaches the tunable filter (140) comprises a plurality of coupled Mach-Zehnder Interferometer filters (142<sub>1</sub>, 142<sub>2</sub>, 142<sub>3</sub>), each of the MZI filters includes at least one phase shifter (column 6, lines 55-56). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the optical tunable filter of Hung's device to have a plurality of coupled Mach-Zehnder Interferometer filters, each of the MZI filters includes at least one phase shifter (accordance with the teaching of Doerr) for the purpose of providing an optical monitor which has higher efficiency of optical signal transmission and also has low loss.

With respect to claim 14, Hung substantially discloses all the limitations of the claimed invention except the tunable filter comprises seven coupled Mach-Zehnder Interferometer filters.

However, the tunable filter including seven coupled Mach-Zehnder Interferometer filters is considered to be obvious. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the optical tunable



Art Unit: 2874

filter of Hung's device to have seven coupled Mach-Zehnder Interferometer for the purpose of obtaining a higher efficiency of the optical signal transmission, and it also has been held that discovering an optimum value of a result effective variable involves only routine skill in the art and it is noted that the applicant does not disclose criticality in the value claimed. *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (see MPEP § 2144.05).

#### ***Allowable Subject Matter***

8. Claim 21 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The prior art of record fails to disclose or reasonably suggest the optical monitor, further comprising a forth means for scanning a tuning frequency band of the optical signal as recited in claim 21.

#### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-4, 6-17, 19 and 21 have been considered but are moot in view of the new ground(s) of rejection.

#### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Doan whose telephone number is (571) 272-

Art Unit: 2874

2346. The examiner can normally be reached on Monday to Thursday from 6:00 am to 3:30 pm, second Friday off.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JENNIFER DOAN  
PRIMARY EXAMINER

JD

April 25, 2006